# OTAY WATER DISTRICT

## WATER SUPPLY ASSESSMENT REPORT

### Otay Business Park

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**Otay Water District**

# Water Supply Assessment Report
# October 2008
## Otay Business Park

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# Otay Water District
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## Otay Business Park

## Executive Summary

The Otay Water District (WD) prepared this Water Supply Assessment Report (WSA Report) at the request of the County of San Diego (County) for the Otay Business Park (Business Park) project. The Paragon Management Company has submitted an entitlement application to the County for the development of the Business Park project.

The Business Park project is currently located within the jurisdictions of the Otay WD, the San Diego County Water Authority (Water Authority), and the Metropolitan Water District of Southern California (Metropolitan). To obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and Metropolitan to utilize imported water supply.

The Business Park project proposed land uses are substantially consistent with the zoning and densities contained in the East Otay Mesa Specific Plan Area. The San Diego County Board of Supervisors adopted the East Otay Mesa Specific Plan Area on July 27, 1994. The East Otay Mesa Specific Plan Area land use are intended primarily for accommodating wholesale storage and distribution, research, and general industrial uses. The East Otay Mesa Specific Plan Area classifies the land use of the Business Park site as mixed industrial.

The Paragon Management Company proposed development concept for the approximately 161.6 acre Business Park project is planned as industrial and business park land uses. The Business Park project consists of 59 industrial and business park lots, circulation elements, 2 storm water detention lots, and some open space.

Using the land use demand projection criteria as established in the Otay WD 2002 Water Resources Master Plan (WRMP), the projected potable water demand for the proposed Business Park project totals 0.144 million gallons per day (mgd) or about 162 acre feet per year (ac-ft/yr). The projected recycled water demand for the proposed Business Park project is 0.017 mgd or about 19.5 ac-ft/yr, representing about 11% of total Business Park project demand.

The Business Park project development proponents are required to use recycled water for irrigation. The primary benefit of using recycled water is that it will offset the potable water

demands by an estimated 19.5 ac-ft/yr. The Otay WD 2002 WRMP and 2005 Urban Water Management Plan (UWMP) anticipated that the Business Park project would use both potable and recycled water.

The Water Authority and Metropolitan have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and Metropolitan update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Water Authority nor Metropolitan jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans than reflected in the existing growth forecasts. Proposed land areas with pending annexations or revised land use plans typically result in creating higher demand and supply requirements than anticipated. The Otay WD, Water Authority, and Metropolitan next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands caused by annexations or revised land use planning decisions.

Metropolitan's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2004 update to the IRP (2004 IRP Update) includes a planning buffer supply to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, Metropolitan periodically evaluates supply development to ensure that the region is not under or over developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the relatively recent court ruling regarding the Sacramento-San Joaquin Delta issues. Challenges such as these essentially always will be present. The regional water supply agencies, the Water Authority and Metropolitan, along with Otay WD nevertheless fully intend to have sufficient, reliable supplies to serve demands.

In Section II.4 of their 2005 Regional Urban Water Management Plan (RUWMP), Metropolitan states that through effective management of its water supply, they fully expect to be 100 percent reliable in meeting all non-discounted non-interruptible demands throughout

the next twenty-five years. Metropolitan's 2005 RUWMP identifies potential reserve supplies in the supply capability analysis (Tables II-7, II-8, and II-9), which could be available to meet the unanticipated demands. Also, in evaluating the availability of supply, a Water Authority member agency could determine if "offset" supplies are available as a result of other land use decisions, which lowered water use within their service area.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 9 of the Water Authority's 2005 Updated UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, completed in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

This WSA Report identifies that the water demand projections for the proposed Business Park project are included in the water demand and supply forecasts within the water resources planning documents of the Otay WD, the Water Authority, and Metropolitan. Water supplies necessary to serve the demands of the proposed Business Park project, along with existing and other projected future users, as well as the actions necessary to develop these supplies, are and will be identified in the water supply planning documents of the Otay WD, the Water Authority, and Metropolitan.

This WSA Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply needs for the proposed Business Park project. This WSA Report demonstrates that sufficient water supplies are planned for and are intended to be made available over a 20-year planning horizon in normal years and in single and multiple dry years to meet the projected demand of the proposed Business Park project and the existing and other planned development projects within the Otay WD.

Accordingly, after approval of a WSA Report for the Business Park project by the Otay WD Board of Directors (Board), the WSA Report may be used to comply with the requirements of the legislation enacted by Senate Bill 610 as follows:

Senate Bill (SB) 610 Water Supply Assessment: The Otay WD Board approved WSA Report may be incorporated into the California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) compliance process for the Business Park project as a water supply assessment report consistent with the requirements of the legislation enacted by SB 610. The County as lead agency under CEQA for the Business Park project EIR may cite the approved WSA Report as evidence that a sufficient water supply is planned to be made available to serve the Business Park project.

# Section 1 - Purpose

The Paragon Management Company submitted an entitlement application to the County of San Diego (County) for the development of the Otay Business Park (Business Park) project. The County requested that Otay Water District (WD) prepare a Water Supply Assessment Report (WSA Report) for the Business Park project. The Business Park project description is provided in Section 3 of this WSA Report.

This WSA Report for the Business Park project has been prepared by the Otay WD in consultation with Kimley-Horn and Associates, the San Diego County Water Authority (Water Authority), and the County pursuant to Public Resources Code Section 21151.9 and California Water Code Sections 10631, 10656, 10657, 10910, 10911, 10912, and 10915 referred to as Senate Bill (SB) 610. SB 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires that the water purveyor of the public water system prepare a water supply assessment to be included in the California Environmental Quality Act (CEQA) environmental documentation and approval process of certain proposed projects. The County requested that Otay WD prepare a water supply assessment as per the requirements of SB 610. The requirements of SB 610 are being addressed by this WSA Report.

This WSA Report evaluates water supplies that are and planned to be available during normal, single dry year, and multiple dry water years during a 20-year planning horizon to meet existing demands, expected demands of the Business Park project, and reasonably foreseeable planned future water demands served by Otay WD. The Otay WD Board of Directors approved WSA Report is planned to be used by the County in its evaluation of the Business Park project under the CEQA and Tentative Map approval processes.

# Section 2 - Findings

The Otay WD prepared this WSA Report at the request of the County for the Business Park project. The Paragon Management Company submitted an entitlement application to the County for the development of the Business Park project.

The Business Park project is currently located within the jurisdictions of the Otay WD, the Water Authority, and the Metropolitan Water District of Southern California (Metropolitan). To obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and Metropolitan to utilize imported water supply.

The Water Authority and Metropolitan have an established process that ensures supplies are being planned to meet future growth. Existing land use plans, any revisions to these land use plans, and annexations are captured in San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and Metropolitan update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land use developments that are not within the Water Authority nor Metropolitan jurisdictions or that have revised land uses than reflected in the existing growth forecasts. Proposed land areas to be annexed or revised land use plans typically result in creating higher demand and supply requirements than anticipated. The Water Authority and Metropolitan next demand and supply forecasts would then capture any increase or decrease in demands and resulting supplies as a result of revised land use plans and annexations. Therefore the most current water demand and supply planning information will be a permanent part of and incorporated within the Water Authority and Metropolitan updated water resources planning processes and documents.

This process is utilized by the Water Authority and Metropolitan to document the water supplies necessary to serve the demands of any proposed development project, along with existing and other projected future users, as well as the actions necessary to develop these supplies. Through this process the necessary demand and supply information is thus assured to be identified and incorporated within the water supply planning documents of the Water Authority and Metropolitan.

Water supplies necessary to serve the demands of the proposed Business Park project, along with existing and other reasonably foreseeable projected future users, as well as the actions necessary to develop these supplies, are identified and included within the water supply planning documents of the Otay WD, Water Authority, and Metropolitan. This WSA Report demonstrates and documents that with development of the resources currently identified and

those that may be additional acquired, that there is intended to be sufficient water supplies for the Business Park project and that sufficient water supplies is planned for by the Otay WD, Water Authority, and Metropolitan for over the next 20-year planning horizon to meet the projected demand of the proposed Business Park project and the existing and other reasonably foreseeable planned development projects within the Otay WD.

This WSA Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply needs for the proposed Business Park project. This WSA Report incorporates by reference the current Urban Water Management Plans and other water resources planning documents of the Otay WD, the Water Authority, and Metropolitan. The Otay WD prepared this WSA to document that sufficient water supplies are planned for to meet projected water demands of the Business Park project and the existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal supply years and in single dry and multiple dry years.

Based on a normal water supply year, the five-year increments for a 20-year projection indicate projected water supply is planned for to meet the estimated water demand of the Otay WD (38,774 acre-feet (ac-ft) in 2005 to 72,853 ac-ft in 2025) per the Otay WD 2005 Urban Water Management Plan. Based on dry year forecasts, the estimated water supply is also planned for to meet the projected water demand, during single dry and multiple dry year scenarios. On average, the dry year demands are about 7% higher than the normal demands. Using this model, the projected single dry year necessary supply requirement for 2010 is 53,299 ac-ft and for multiple dry years beginning in 2007 46,212 ac-ft, 48,574 ac-ft, and 50,936 ac-ft, respectively, is necessary to meet demand. The Otay WD recycled water supply is assumed to be drought-proof and not subject to reduction during dry periods.

Together, these findings demonstrate that sufficient water supplies are planned for as well as the actions necessary to develop these supplies are documented, to serve the proposed Business Park project and the existing and other reasonably foreseeable planned projects within the Otay WD in both normal and single and multiple dry year forecasts over a 20-year planning horizon.

# Section 3 - Project Description

The Otay Business Park project is within the unincorporated area of the County of San Diego, California and is located generally south of Otay Mesa Road and southeast of the corner of Alta Road and future extension of Airway Road on Otay Mesa. The southern boundary of the Business Park project abuts the United States/Mexico international border. Refer to Appendix A for the regional location map of the proposed Business Park project. The Business Park project is currently within the jurisdictions of the Otay WD, the Water Authority, and Metropolitan.

The Business Park project proposed land uses are substantially consistent with the zoning and densities contained in the East Otay Mesa Specific Plan Area. The San Diego County Board of Supervisors adopted the East Otay Mesa Specific Plan Area on July 27, 1994. The East Otay Mesa Specific Plan Area classifies land use for the Business Park project site as mixed industrial.

The East Otay Mesa Specific Plan Area is bordered on the west by the City of San Diego, on the south by the international border with Mexico, and on the east by the San Ysidro Mountains. To the immediate north are the existing 773.5 acre site of the Richard J. Donovan State Correctional Facility and the 519.0 acre site of the County's George F. Bailey and East Mesa Detention Facilities.

The East Otay Mesa Specific Plan Area encompasses approximately 3,300 gross acres and designates approximately 2,372 acres as mixed industrial land use. The planned mixed industrial land uses are intended primarily for accommodating wholesale storage and distribution, warehousing, research services, and general industrial uses. The land use plan includes very low-density rural residential development in the hillside areas, state route right-of-way and a transit station, a fire station, a sheriff station, and commercial purposes.

The Paragon Management Company proposed development concept for the approximately 161.6 acre Business Park project is planned as mixed industrial and business park land uses as shown in Table 1.

**Table 1**
**Otay Business Park Proposed Land Uses[1]**

| Location | Land Use Description | Area | Dwelling Units |
|---|---|---|---|
| Otay Business Park | Mixed Industrial and Business Park | 161.6 acres | 0 |
| **Totals** | | **161.6 acres** | **0 units** |

[1] Source: Kimley-Horn and Associates Concept Plan for the Otay Business Park.

The approximately 161.6 acre Business Park project development plan is also intended to accommodate future construction of State Route 11 (SR-11). Once of the proposed alignments of SR-11 would traverse the northeastern portion of the site to provide accessibility to the planned future third border crossing facility. Refer to Appendix B for the Business Park project proposed concept plan.

The County of San Diego has identified discretionary actions and/or permit approval requirements for the Business Park project. The projected potable and recycled water demands associated with the Business Park project have considered the discretionary actions and/or permit approvals and are incorporated into and used in this WSA Report. The water

demands for the proposed Business Park project are provided in Section 5 – Historical and Projected Water Demands.

# Section 4 – Otay Water District

The Otay WD is a municipal water district formed in 1956 pursuant to the Municipal Water District Act of 1911 (Water Code §§ 71000 et seq.). The Otay WD joined the Water Authority as a member agency in 1956 to acquire the right to purchase and distribute imported water throughout its service area. The Water Authority is an agency responsible for the wholesale supply of water to its 24 public agency members in San Diego County.

The Otay WD relies on the Water Authority for 100 percent of its domestic water supply. The Water Authority is the agency responsible for the supply of imported water into San Diego County through its membership in Metropolitan. The Water Authority currently obtains the vast majority of its imported supply from Metropolitan, but is in the process of diversifying its available supplies.

The Otay WD provides water service to residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses. In addition to providing water throughout its service area, Otay WD also provides sewage collection and treatment services to a portion of its service area known as the Jamacha Basin. The Otay WD also owns and operates the Ralph W. Chapman Water Recycling Facility (RWCWRF) which has an effective treatment capacity of 1.2 million gallons per day (mgd) or about 1,300 acre feet per year (ac-ft/yr) to produce recycled water. On May 18, 2007 an additional source of recycled water supply, at least 6 mgd or about 6,720 ac-ft/yr, became available to Otay WD from the City of San Diego's South Bay Water Reclamation Plant (SBWRP).

The Otay WD jurisdictional area is generally located within the south central portion of San Diego County and includes approximately 125 square miles. The Otay WD serves portions of the unincorporated communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, and Otay Mesa, the eastern portion of the City of Chula Vista and a portion of the City of San Diego on Otay Mesa. The Otay WD jurisdiction boundaries are roughly bounded on the north by the Padre Dam Municipal Water District, on the northwest by the Helix Water District, and on the west by the South Bay Irrigation District (Sweetwater Authority) and the City of San Diego. The southern boundary of Otay WD is the international border with Mexico.

The planning area addressed in the Otay WD 2002 Water Resources Master Plan (WRMP) and the 2005 Urban Water Management Plan (UWMP) includes the land within the jurisdictional boundary of the Otay WD and those areas outside of the present Otay WD boundaries considered to be in the Area of Influence of the Otay WD. Figure 3-1 contained within the 2002 WRMP shows the jurisdictional boundary of the Otay WD and the Area of

Influence. The planning area is approximately 143 square miles, of which approximately 125 square miles are within the Otay WD current boundaries and approximately 18 square miles are in the Area of Influence. The area east of Otay WD is rural and currently not within any water purveyor jurisdiction and potentially could be served by the Otay WD in the future if the need for imported water becomes necessary, as is the case for the Area of Influence.

The City of Chula Vista, the City of San Diego, and the County of San Diego are the three land use planning agencies within the Otay WD jurisdiction. Data on forecasts for land use planning, demographics, economic projections, population, and the future rate of growth within Otay WD were obtained from the San Diego Association of Governments (SANDAG). SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information through the year 2030. Population growth within the Otay WD service area is expected to increase from the 2005 figure of approximately 179,000 to an estimated 268,000 by 2025, and is estimated to be 277,000 at ultimate build out. Land use information used to develop water demand projections are based upon Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan (Otay Ranch GDP), East Otay Mesa Specific Plan Area, San Diego County Community Plans, and City of San Diego, City of Chula Vista, and County of San Diego General Plans.

The Otay WD long-term historic growth rate has been approximately 3% per year. In recent past years, growth has occurred at a faster rate due to accelerated residential development in the eastern portion of the City of Chula Vista. The SANDAG forecast had predicted this accelerated growth to continue for another five to ten years. The growth rate has slowed and it is expected to slow as the inventory of developable land is diminished.

Climatic conditions within the Otay WD service area are characteristically Mediterranean near the coast, with mild temperatures year round. Inland areas are both hotter in summer and cooler in winter, with summer temperatures often exceeding 90 degrees and winter temperatures occasionally dipping to below freezing. Most of the region's rainfall occurs during the months of December through March. Average annual rainfall is approximately 9.4 inches per year.

Historic climate data were obtained from the Western Regional Climate Center for Station 042706 (El Cajon). This station was selected because its annual temperature variation is representative of most of the Otay WD service area. While there is a station in the City of Chula Vista, the temperature variation at the City of Chula Vista station is more typical of a coastal environment than the conditions in most of the Otay WD service area.

## 4.1 Urban Water Management Plan

In accordance with the California Urban Water Management Planning Act, the Otay WD Board of Directors adopted an Urban Water Management Plan in December 2005 and it was subsequently submitted to the California Department of Water Resources (DWR). DWR required Otay WD to make revisions to the submitted plan. The Otay WD Board of Directors

adopted the revised 2005 UWMP in July 2007. As required by law, the Otay WD revised 2005 UWMP includes projected water supplies required to meet future demands through 2030. In accordance with Water Code Section 10910 (c)(2) and Government Code Section 66473.7 (c)(3), information from the Otay WD revised 2005 UWMP along with supplemental information from the Otay WD 2002 WRMP have been utilized to prepare this WSA Report and are incorporated herein by reference.

## Section 5 – Historical and Projected Water Demands

The projected demands for Otay WD are based on Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan, the East Otay Mesa Specific Plan Area, San Diego County Community Plans, and City of San Diego, City of Chula Vista, and County of San Diego General Plans. This land use information is also used by SANDAG as the basis for its most recent forecast data. This land use information is utilized in the preparation of the Otay WD 2002 WRMP and revised 2005 UWMP to develop the forecasted demands and supply requirements.

In 1994, the Water Authority selected the Institute for Water Resources-Municipal and Industrial Needs (MAIN) computer model to forecast municipal and industrial water use for the San Diego region. The MAIN model uses demographic and economic data to project sector-level water demands (i.e. residential and non-residential demands). This econometric model has over a quarter of a century of practical application and is used by many cities and water agencies throughout the United States. The Water Authority's version of the MAIN model was modified to reflect the San Diego region's unique parameters and is known as CWA-MAIN.

The foundation of the water demand forecast is the underlying demographic and economic projections. This was a primary reason, why, in 1992 the Water Authority and SANDAG entered into a Memorandum of Agreement (MOA), in which the Water Authority agreed to use the SANDAG current regional growth forecast for water supply planning purposes. In addition, the MOA recognizes that water supply reliability must be a component of San Diego County's regional growth management strategy required by Proposition C, as passed by the San Diego County voters in 1988. The MOA ensures a strong linkage between local general plan land use forecasts and water demand projections and resulting supply needs for the San Diego region.

Consistent with the previous CWA-MAIN modeling efforts, the 2005 water demand forecast update utilized the latest official SANDAG demographic projections. The new SANDAG 2030 Forecast, released in December 2003, extended the projection horizon an additional ten years to 2030. Member agency-level demographic and economic projections were compiled from this SANDAG forecast and incorporated into the CWA-MAIN model.

The municipal and industrial forecast also included an updated accounting of projected conservation savings based on projected regional implementation of the California Urban Water Conservation Council (CUWCC) Best Management Practices and SANDAG demographic information for the period 2005 through 2030. These savings estimates were then factored into the baseline municipal and industrial demand forecast.

A separate agricultural model, also used in prior modeling efforts, was used to forecast agricultural water demands within the Water Authority service area. This model estimates agricultural demand to be met by the Water Authority's member agencies based on agricultural acreage projections provided by SANDAG, crop distribution data derived from the Department of Water Resources and the California Avocado Commission, and average crop-type watering requirements based on California Irrigation Management Information System data.

The Water Authority and Metropolitan update their water demand and supply projections within their jurisdictions utilizing the SANDAG most recent growth forecast to project future water demands. This provides for the important strong link between demand and supply projections to the land use plans of the cities and the county. This provides for consistency between the retail and wholesale agencies water demand projections, thereby ensuring that adequate supplies are and will be planned for the Otay WD existing and future water users. Existing land use plans, any revisions to land use plans, and annexations are captured in the SANDAG updated forecasts. The Water Authority and Metropolitan will update their demand forecasts based on the SANDAG most recent forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports consistent with Senate Bills 610 and 221 for proposed land use developments that either have pending annexations into the Otay WD, Water Authority, and Metropolitan or have revised land use plans than originally anticipated.

The state of California Business and Professions Code Section 11010 and Government Code Sections 65867.5, 66455.3, and 66473.7, are referred to as SB 221, requires affirmative written verification from the water purveyor of the public water system that sufficient water supplies are to be available for certain residential subdivisions of property prior to approval of a tentative map. SB 221 compliance does not apply to the Business Park project as it is an industrial subdivision.

In evaluating the availability of supply, the Water Authority member agency can determine if "offset" supplies are available as a result of other land use decisions, which lowered water use within their service area. In addition, Metropolitan's 2005 Regional Urban Water Management Plan identified potential reserve supplies in the supply capability analysis (Tables II-7, II-8, and II-9), which could be available to meet the unanticipated demands. The Water Authority and Metropolitan next forecast and supply planning documents would then capture any increase or decrease in demands caused by annexations or revised land use plans.

To fully quantify probable demands served by the Water Authority, lands with impending applications for annexation to the Otay WD, Water Authority, and Metropolitan service areas are identified in the Water Authority 2005 Updated UWMP. Working with its member agencies, the Water Authority identified potential near-term annexations as being parcels that may be annexed to the Otay WD, Water Authority, and Metropolitan within the next five years. Estimated water demands for those parcels, were provided to the Water Authority by the member agency or project proponent and then added to the Water Authority forecast. The Water Authority included the potential near-term annexations land areas projected potable water demands within their 2005 Updated UWMP to provide for more comprehensive supply planning and assist member agencies such as Otay WD in complying with SB 610 and/or SB 221. Tables 2-2 and 2-9 within the Water Authority 2005 Updated UWMP provides projected demand information for the anticipated pending annexations.

The historical and projected potable water demands for Otay WD are shown in Table 2.

**Table 2**
**Historical and Projected Potable Water Fiscal Year Demands (acre-feet)**
**Incorporating Water Conservation BMP Efforts[1]**

| Water Use Sectors | 1995 | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 |
|---|---|---|---|---|---|---|---|---|
| Single Family Residential | 10,604 | 15,331 | 19,850 | 25,442 | 29,130 | 33,316 | 37,211 | 42,089 |
| Multi-Family Residential | 1,880 | 1,986 | 2,893 | 3,708 | 4,245 | 4,855 | 5,423 | 6,134 |
| Commercial & Industrial | 1,650 | 3,043 | 1,549 | 1,986 | 2,274 | 2,600 | 2,904 | 3,285 |
| Institutional & Governmental | 1,680 | 2,089 | 2,115 | 2,711 | 3,104 | 3,550 | 3,965 | 4,485 |
| Landscape | 3,983 | 6,256 | 8,512 | 10,910 | 12,491 | 14,286 | 15,956 | 18,048 |
| Agricultural | 487 | 171 | 2,268 | 2,907 | 3,328 | 3,806 | 4,251 | 4,809 |
| Known Losses | * | * | 511 | 655 | 749 | 857 | 957 | 1,083 |
| System Losses | * | 1,733 | 1,076 | 1,494 | 1,711 | 1,957 | 2,186 | 2,472 |
| **Totals** | **20,284** | **30,609** | **38,774** | **49,813** | **57,032** | **65,227** | **72,853** | **82,405** |

[1] Source: The Otay WD 2005 UWMP.
* Known losses (i.e. unaccounted for water in UWMP) and system losses unavailable.

The historical and projected recycled water demands for Otay WD are shown in Table 3.

**Table 3**
**Historical and Projected Recycled Water Fiscal Year Demands (acre-feet)**
**Incorporating Water Conservation BMP Efforts[1]**

| Water Use Sector | 1995 | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 |
|---|---|---|---|---|---|---|---|---|
| Landscape | 614 | 1,274 | 1,155 | 4,040 | 4,684 | 5,430 | 6,294 | 7,297 |
| **Totals** | **614** | **1,274** | **1,155** | **4,040** | **4,684** | **5,430** | **6,294** | **7,297** |

[1] Source: The Otay WD 2005 UWMP.

The Otay WD water demand projection methodology utilizes a component land use approach. This is done by applying representative values of water use to the acreage of each land use type and then aggregating these individual land use demand projections into an overall total demand for the Otay WD. This is called the water duty method, and the water duty is the amount of water used in acre-feet per acre per year. This approach is used for all the land use types except residential development where a demand per dwelling unit was applied. In addition, commercial and industrial water use categories are further subdivided by type including separate categories for golf courses, schools, jails, prisons, hospitals, etc. where specific water demands are allocated.

To determine water duties for the various types of land use, the entire water meter database of the Otay WD is utilized and sorted by the appropriate land use types. The metered consumption records are then examined for each of the land uses, and water duties are determined for the various types of residential, commercial, industrial, and institutional land uses. For example the water duty factors for commercial and industrial land uses are estimated using 1,785 and 893 gallons per day per acre respectively. Residential water demand is established based on the same data but computed on a per-dwelling unit basis. The focus is to ensure that for each of the residential land use categories (very low, low, medium, and high densities), the demand criteria used is adequately represented based upon actual data. This method is used because residential land uses constitute a substantial percentage of the total developable planning area of the Otay WD.

By applying the established water duties to the proposed land uses, the projected water demand for the entire Otay WD planning area at ultimate development is determined. Projected water demands for the intervening years were determined using growth rate projections consistent with data obtained from SANDAG and the experience of the Otay WD.

Using the land use demand projection criteria as established in the Otay WD 2002 WRMP, the projected potable water demand for the proposed Business Park project is shown in Table 4, which totals 0.144 mgd or about 162 ac-ft/yr. The projected recycled water demand for the proposed Business Park project is provided in Table 5, which totals 0.017 mgd or about 19.5 ac-ft/yr, representing about 11% of total Business Park project demand.

**Table 4**
**Otay Business Park Projected Potable**
**Water Annual Average Demands**

| Location | Land Use Description | Net Acreage | Demand (gpd) |
|---|---|---|---|
| Otay Business Park | Mixed Industrial and Business Park | 161.6 acres | 144,309 |
| **Totals** | | **161.6 acres** | **144,309** |

**Table 5**
**Otay Business Park Projected Recycled**
**Water Annual Average Demands**

| Location | Land Use Description | Irrigated Area | Demand (gpd) |
|---|---|---|---|
| Otay Business Park | Mixed Industrial and Business Park | 8.1 acres | 17,383 |
| **Totals** | | **8.1 acres** | **17,383** |

The Business Park project proponents are required to use recycled water for irrigation. The primary benefit of using recycled water is that it will offset the potable water demands by an estimated 19.5 ac-ft/yr. The Otay WD 2002 WRMP and 2005 UWMP anticipated that the Business Park project would use both potable and recycled water.

## 5.1 Demand Management (Water Conservation)

Demand management, or water conservation is a critical part of the Otay WD 2005 UWMP and its long term strategy for meeting water supply needs of the Otay WD customers. Water conservation, is frequently the lowest-cost resource available to any water agency. The goals of the Otay WD water conservation programs are to:

- Reduce the demand for more expensive, imported water
- Demonstrate continued commitment to the Best Management Practices (BMP)
- Ensure a reliable water supply

The Otay WD is signatory to the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council in 1991 in an effort to reduce California's long-term water demands. Water conservation programs are developed and implemented on the premise that water conservation increases the water supply by reducing the demand on available supply, which is vital to the optimal utilization of a region's water supply resources. The Otay WD participates in many water conservation programs designed and typically operated on a shared-cost participation program basis among the Water Authority, Metropolitan, and their

member agencies. The demands shown in Tables 2, 3, 4, and 5 take into account implementation of water conservation measures within Otay WD.

As one of the first signatories to the MOU Regarding Urban Water Conservation in California, the Otay WD has made BMP implementation for water conservation the cornerstone of its conservation programs and a key element in its water resource management strategy. As a member of the Water Authority, Otay WD also benefits from regional programs performed on behalf of its member agencies. The BMP programs implemented by Otay WD and regional BMP programs implemented by the Water Authority that benefit all their member agencies are addressed in the Otay WD revised 2005 UWMP. In partnership with the Water Authority, the County of San Diego, City of San Diego, City of Chula Vista, and developers, the Otay WD water conservation efforts are expected to grow and expand. The resulting savings directly relate to additional available water in the San Diego County region for beneficial use within the Water Authority service area, including the Otay WD.

Additional conservation or water use efficiency measures or programs practiced by the Otay WD include the following:

- Supervisory Control and Data Acquisition System

The Otay WD implemented and has operated for many years a Supervisor Control and Data Acquisition (SCADA) system to control, monitor, and collect data regarding the operation of the water system. The major facilities that have SCADA capabilities are the water flow control supply sources, transmission network, pumping stations, and water storage reservoirs. The SCADA system allows for many and varied useful functions. Some of these functions provide for operating personnel to monitor the water supply source flow rates, reservoir levels, turn on or off pumping units, etc. The SCADA system aids in the prevention of water reservoir overflow events and increases energy efficiency.

- Water Conservation Ordinance

California Water Code Sections 375 et seq. permit public entities which supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving water supplies of such public entity. The Otay WD Board of Directors established a comprehensive water conservation program pursuant to California Water Code Sections 375 et seq., based upon the need to conserve water supplies and to avoid or minimize the effects of any future shortage. A water shortage could exist based upon the occurrence of one or more of the following conditions:

1. A general water supply shortage due to increased demand or limited supplies.
2. Distribution or storage facilities of the Water Authority or other agencies become inadequate.
3. A major failure of the supply, storage, and distribution facilities of Metropolitan, Water Authority, and/or Otay WD.

> The Otay WD water conservation ordinance finds and determines that the conditions prevailing in the San Diego County area require that the available water resources be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented and that the conservation of such water be encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of the people of the Otay WD and for the public welfare.

As a signatory to the MOU Regarding Urban Water Conservation in California, the Otay WD is required to submit biannual reports that detail the implementation of current water conservation practices. The Otay WD voluntarily agreed to implement the fourteen water conservation Best Management Practices beginning in 1992. The Otay WD submits its report to the CUWCC every two years. The Otay WD BMP Reports for 2001 to 2004, as well as the BMP Coverage Report for 2003-04, are included in the revised 2005 UWMP.

The Business Park project will implement the CUWCC Best Management Practices for water conservation such as installation of ultra low flow toilets, development of a water conversation plan, and beneficial use of recycled water, all of which are typical requirements of development projects within the County of San Diego.

## Section 6 - Existing and Projected Supplies

The Otay WD currently does not have an independent raw or potable water supply source. The Otay WD is a member public agency of the Water Authority. The Water Authority is a member public agency of Metropolitan. The statutory relationships between the Water Authority and its member agencies, and Metropolitan and its member agencies, respectively, establish the scope of the Otay WD entitlement to water from these two agencies.

The Water Authority through two delivery pipelines, referred to as Pipeline No. 4 and the La Mesa Sweetwater Extension Pipeline, currently supply the Otay WD with 100 percent of its potable water. The Water Authority in turn, currently purchases the majority of its water from Metropolitan. Due to the Otay WD reliance on these two agencies, this WSA Report includes referenced documents that contain information on the existing and projected supplies, supply programs, and related projects of the Water Authority and Metropolitan. The Water Authority and Metropolitan are actively pursuing programs and projects to diversify their water supply resources.

The description of local recycled water supplies available to the Otay WD is also discussed below.

## 6.1 Metropolitan Water District of Southern California 2005 Regional Urban Water Management Plan

In November 2005, Metropolitan adopted its 2005 Regional Urban Water Management Plan (RUWMP). The 2005 RUWMP provides Metropolitan's member agencies, retail water utilities, cities, and counties within its service area with, among other things, a detailed evaluation of the supplies necessary to meet future demands, and an evaluation of reasonable and practical efficient water uses, recycling, and conservation activities. During the preparation of the 2005 RUWMP, Metropolitan also utilized the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority service area.

### 6.1.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

Metropolitan is a wholesale supplier of water to its member public agencies and obtains its supplies from two primary sources: the Colorado River, via the Colorado River Aqueduct (CRA), which it owns and operates, and Northern California, via the State Water Project (SWP). The 2005 RUWMP documents the availability of these existing supplies and additional supplies necessary to meet future demands.

#### 6.1.1.1 Metropolitan Supplies

Metropolitan's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2004 update to the IRP (2004 IRP Update) includes a planning buffer supply to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, Metropolitan periodically evaluates supply development to ensure that the region is not under or over-developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

In November 2005, Metropolitan adopted its 2005 RUWMP in accordance with state law. The resource targets included in the 2004 IRP Update serve as the foundation for the planning assumptions used in the 2005 RUWMP. Metropolitan's 2005 RUWMP contains a water supply reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 25-year period in average, single dry year and multiple dry year periods. As part of this process, Metropolitan also uses the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority's service area.

As stated in Metropolitan's 2005 RUWMP, that plan may be used as a source document for meeting the requirements of SB 610 and SB 221 until the next scheduled update is completed

in 2010. The 2005 RUWMP includes a "Justifications for Supply Projections" in Appendix A.3, that provides detailed documentation of the planning, legal, financial, and regulatory basis for including each source of supply in the plan. A copy of Metropolitan's 2005 RUWMP can be found on the World Wide Web at the following address: www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2005.pdf.

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the relatively recent court ruling regarding the Sacramento-San Joaquin Delta issues. Challenges such as these essentially always will be present. The regional water supply agencies, the Water Authority and Metropolitan, along with the Otay WD nevertheless fully intend to have sufficient, reliable supplies to serve water demands.

#### 6.1.1.2 Pipeline 6

Metropolitan completed its System Overview Study (SOS) in fall 2005. The SOS determines if Metropolitan's current system is capable of delivering the supplies to meet the demands shown in its 2004 IRP Update.

Pipeline 6 is included in the SOS as an untreated water pipeline to deliver additional Metropolitan supplies to the San Diego region. The addition of Pipeline 6 would allow the Water Authority and Metropolitan to convert one of the existing untreated water pipelines to a treated water pipeline. With the conversion, the capacity to import both treated and untreated water would increase significantly, thereby enabling Metropolitan to increase both treated and untreated imported water delivery capacity to the San Diego region.

Based on current planning assumptions of the Water Authority and Metropolitan, new imported supplies delivered though Pipeline 6 would be required no earlier than 2018, absent development of new supplies from seawater desalination or some combination of new local supplies, totaling 56,000 ac-ft/yr (see Section 6.2.1 below). With development of 56,000 ac-ft/yr, Pipeline 6 would not be needed until 2023. Based on a nine-year lead time requested by Metropolitan, a decision to proceed with Pipeline 6 would need to be communicated to Metropolitan during 2009. Activities associated with implementation of Pipeline 6 include the following:

- Coordination between Metropolitan and the Water Authority regarding planning and design of the pipeline is ongoing.

- An alignment for the entire approximately 30-mile pipeline was identified in the original 1993 Environmental Impact Report. Metropolitan is conducting a feasibility study to re-visit the 1993 alignment and evaluate alternative alignments north of the San Luis Rey River in light of changed conditions since 1993. The Water Authority plans to conduct a similar feasibility study of Pipeline 6 alignments south of the San

Luis Rey River. Based on these updated feasibility studies, an updated environmental analysis for the project is also planned.

### 6.1.2 Metropolitan Capital Investment Plan

As part of Metropolitan's annual budget approval process, a Capital Investment Plan is prepared. The cost, purpose, justification, status, progress, etc. of Metropolitan's infrastructure projects to deliver existing and future supplies are documented in the Capital Investment Plan. The financing of these projects is addressed as part of the annual budget approval process.

Metropolitan's Capital Investment Plan includes a series of projects identified from Metropolitan studies of projected water needs, which, when considered along with operational demands on aging facilities and new water quality regulations, identify the capital projects needed to maintain infrastructure reliability and water quality standards, improve efficiency, and provide future cost savings. All projects within the Capital Investment Plan are evaluated against an objective set of criteria to ensure they are aligned with the Metropolitan's goals of supply reliability and quality.

## 6.2 San Diego County Water Authority Regional Water Supplies

The Water Authority has adopted plans and is taking specific actions to develop adequate water supplies to help meet existing and future water demands within the San Diego region. This section contains details on the supplies being developed by the Water Authority. A summary of recent actions pertaining to development of these supplies includes:

- In accordance with the Urban Water Management Planning Act, the Water Authority adopted an Urban Water Management Plan (UWMP) in November 2005 and updated the 2005 UWMP in April 2007 that identifies a diverse mix of local and imported water supplies to meet future demands. A copy of the Water Authority's 2005 Updated UWMP can be found on the World Wide Web at www.sdcwa.org.

- Deliveries of conserved agricultural water from the Imperial Irrigation District (IID) to San Diego County have increased annually since 2003, with 35,000 ac-ft of deliveries in FY 2006.

- As part of the October 2003 Quantification Settlement Agreement (QSA), the Water Authority was assigned Metropolitan's rights to 77,700 ac-ft/yr of conserved water from the All-American Canal (AAC) and Coachella Canal (CC) lining projects. The Water Authority has begun implementation of these projects, with the CC project now complete and deliveries being made to the San Diego region.

Through implementation of the Water Authority and member agency planned supply projects, along with reliable imported water supplies from Metropolitan, the region anticipates having adequate supplies to meet existing and future water demands.

To ensure sufficient supplies to meet projected growth in the San Diego region, the Water Authority uses the SANDAG most recent regional growth forecast in calculating regional water demands. The SANDAG regional growth forecast is based on the plans and policies of the land-use jurisdictions with San Diego County. The existing and future demands of the member agencies are included in the Water Authority's projections.

### 6.2.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The Water Authority currently obtains imported supplies from Metropolitan, conserved water from the CC lining project, and an increasing amount of conserved agricultural water from IID. Of the twenty-seven member agencies that purchase water supplies from Metropolitan, the Water Authority is Metropolitan's largest customer. In FY 2006, the Water Authority purchased 577,944 ac-ft from Metropolitan, an increase of approximately 4,000 ac-ft over the FY 2005 amount.

Section 135 of Metropolitan's Act defines the preferential right to water for each of its member agencies. As calculated by Metropolitan, the Water Authority's FY 2006 preferential right is 16.46% of Metropolitan's supply, while the Water Authority accounted for approximately 25% of Metropolitan's water sales. Under preferential rights, Metropolitan could allocate water without regard to historic water purchases or dependence on Metropolitan. The Water Authority and its member agencies are taking measures to reduce dependence on Metropolitan through development of additional supplies and a water supply portfolio that would not be jeopardized by a preferential rights allocation. Metropolitan has stated, consistent with Section 4202 of its Administrative Code that it is prepared to provide the Water Authority's service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When and as additional water resources are required to meet increasing needs, Metropolitan stated it will be prepared to deliver such supplies. In Section II.4 of their 2005 RUWMP, Metropolitan states that through effective management of its water supply, they fully expect to be 100 percent reliable in meeting all non-discounted non-interruptible demands throughout the next twenty-five years.

The Water Authority has made large investments in Metropolitan's facilities and will continue to include imported supplies from Metropolitan in the future resource mix. As discussed in the Water Authority's 2005 Updated UWMP, the Water Authority and its member agencies are planning to diversify the San Diego regions supply portfolio and reduce purchases from Metropolitan.

As part of the Water Authority's diversification efforts, the Water Authority is now taking delivery of conserved agricultural water from IID and water saved from the CC lining project. The Water Authority is currently implementing the AAC lining projects. Table 6 summarizes

the planned yields from these supply projects, with detailed information included in the sections to follow. Deliveries from Metropolitan are also included in Table 6, which is further discussed in Section 6.1 above. The Water Authority's member agencies provided the verifiable local supply targets for groundwater, groundwater recovery, recycled water, and surface water, which are discussed in more detail in Section 5 of the Water Authority's 2005 Updated UWMP.

**Table 6**
**Projected Verifiable Water Supplies – Water Authority Service Area**
**Normal Year (acre feet)**

| Water Supply Sources | 2010 | 2015 | 2020 | 2025 | 2030 |
|---|---|---|---|---|---|
| **Water Authority Supplies** | | | | | |
| Metropolitan Supplies | 445,858 | 399,855 | 331,374 | 342,870 | 372,922 |
| Water Authority/IID Transfer | 70,000 | 100,000 | 190,000 | 200,000 | 200,000 |
| AAC and CC Lining Projects | 77,700 | 77,700 | 77,700 | 77,700 | 77,700 |
| **Member Agency Supplies** | | | | | |
| Local Surface Water | 59,649 | 59,649 | 59,649 | 59,649 | 59,649 |
| Recycled Water | 33,668 | 40,662 | 45,548 | 46,492 | 47,584 |
| Seawater Desalination | 0 | 34,689 | 36,064 | 37,754 | 40,000 |
| Groundwater | 17,175 | 18,945 | 19,775 | 19,775 | 19,775 |
| Groundwater Recovery | 11,400 | 11,400 | 11,400 | 11,400 | 11,400 |
| Total Projected Supplies | 715,450 | 742,900 | 771,510 | 795,640 | 829,030 |

Source: The Water Authority 2005 Updated Urban Water Management Plan.

Section 5 of the Water Authority's 2005 Updated UWMP also includes a discussion on the local supply target for seawater desalination. Seawater desalination supplies represent a significant future local resource in the Water Authority's service area. Poseidon Resources is pursuing the development of a local, privately-owned desalination project located adjacent to the Encina Power Station. As of June 2007, Poseidon has contracted with the Carlsbad Municipal Water District (MWD) (up to 28,000 ac-ft/yr depending on demands), Valley Center MWD (7,500 ac-ft/yr), Rincon Del Diablo MWD (4,000 ac-ft/yr), and Sweetwater Authority (2,400 ac-ft/yr) to supply up to 41,900 ac-ft/yr of desalinated seawater. The verifiable seawater desalination figure is based on the contract amounts and projected seawater desalination deliveries to Carlsbad MWD. As shown in Table 6, the verifiable projected local seawater desalination supplies vary each year based on the Carlsbad MWD demands (which are less than their desalinated seawater contract amount of 28,000 ac-ft/yr). There are several contingencies related to Poseidon's agreements with these member agencies that must be satisfied before implementation of the project and its ultimate yield can be determined. These contingencies include obtaining legal entitlements for construction of the project, determination of a mutually acceptable delivery interconnection points and delivery charge, and engagement of a third party exchange agency partner where physical delivery to the contracting agency is not practical.

No large-scale seawater desalination facility has ever been permitted and constructed in California. Perhaps the most significant issue for this desalination project as well as others proposed along the California coastline is the ability to permit the facilities, including obtaining a Coastal Development Permit from the California Coastal Commission. This project must also secure arrangements for the delivery of product water from the facility to the local water agencies. These arrangements are currently in the planning stage.

The Water Authority's existing and planned supplies from the IID transfer and canal lining projects are considered "drought-proof" supplies and should be available at the yields shown in Table 6 in normal, single dry, and multi dry year scenarios. For dry year yields from Metropolitan supplies, refer to Metropolitan's 2005 RUWMP, and are discussed in Section 6.1 above.

As part of preparation of a written water supply assessment, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 9 of the Water Authority's 2005 Updated UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, completed in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

#### 6.2.1.1 Water Authority-Imperial Irrigation District Water Conservation and Transfer Agreement

The QSA was signed in October 2003, and resolves long-standing disputes regarding priority and use of Colorado River water and creates a baseline for implementing water transfers. With approval of the QSA, the Water Authority and IID were able to implement their Water Conservation and Transfer Agreement. This agreement not only provides reliability for the San Diego region, but also assists California in reducing its use of Colorado River water to its legal allocation.

On April 29, 1998, the Water Authority signed a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Authority-IID Water Conservation and Transfer Agreement (Transfer Agreement) is the largest agriculture-to-urban water transfer in United States history. Colorado River water will be conserved by Imperial Valley farmers who voluntarily participate in the program and then transferred to the Water Authority for use in San Diego County.

*Implementation Status*

On October 10, 2003, the Water Authority and IID executed an amendment to the original 1998 Transfer Agreement. This amendment modified certain aspects of the 1998 Agreement to be consistent with the terms and conditions of the QSA and related agreements. It also modified other aspects of the agreement to lessen the environmental impacts of the transfer of conserved water. The amendment was expressly contingent on the approval and implementation of the QSA, which was also executed on October 10, 2003.

On November 5, 2003, IID filed a complaint in Imperial County Superior Court seeking validation of 13 contracts associated with the Transfer Agreement and the QSA. Imperial County and various private parties filed additional suits in Superior Court, alleging violations of the California Environmental Quality Act (CEQA), the California Water Code, and other laws related to the approval of the QSA, the water transfer, and related agreements. The lawsuits have been coordinated for trial. The IID, Coachella Valley Water District, Metropolitan, the Water Authority, and the State are defending these suits and coordinating to seek validation of the contracts. Implementation of the transfer provisions is proceeding during litigation. For further information regarding the litigation, contact the Water Authority's General Counsel.

*Expected Supply*

Deliveries into San Diego County from the transfer began in 2003 with an initial transfer of 10,000 ac-ft. The Water Authority received 20,000 ac-ft in 2004, 30,000 in 2005, and 40,000 in 2006. The quantities will increase annually to 200,000 ac-ft by 2021 then remain fixed for the duration of the Transfer Agreement. The initial term of the Transfer Agreement is 45 years, with a provision that either agency may extend the agreement for an additional 30-year term.

During dry years, when water availability is low, the conserved water will be transferred under the IID Colorado River rights, which are among the most senior in the Lower Colorado River Basin. Without the protection of these rights, the Water Authority could suffer delivery cutbacks. In recognition for the value of such reliability, the 1998 contract required the Water Authority to pay a premium on transfer water under defined regional shortage circumstances. The shortage premium period duration is the period of consecutive days during which any of the following exist: 1) a Water Authority shortage; 2) a shortage condition for the Lower Colorado River as declared by the Secretary; and 3) a Critical Year. Under terms of the October 2003 amendment, the shortage premium will not be included in the cost formula until Agreement Year 16.

*Transportation*

The Water Authority entered into a water exchange agreement with Metropolitan on October 10, 2003, to transport the Water Authority-IID transfer water from the Colorado River to San Diego County. Under the exchange agreement, Metropolitan will take delivery of the transfer water through its Colorado River Aqueduct. In exchange, Metropolitan will deliver to the Water

Authority a like quantity and quality of water. The Water Authority will pay Metropolitan's applicable wheeling rate for each acre-foot of exchange water delivered. According to the water exchange agreement, Metropolitan will make delivery of the transfer water for 35 years, unless the Water Authority elects to extend the agreement another 10 years for a total of 45 years.

*Cost/Financing*

The costs associated with the transfer are proposed to be financed through the Water Authority's rates and charges. In the agreement between the Water Authority and IID, the price for the transfer water started at $258 per acre-foot and increases by a set amount for the first five years. The 2005 price for transfer water is $276 per acre-foot. Procedures are in place to evaluate and determine market-based rates following the first five-year period.

In accordance with the October 2003 amended exchange agreement between Metropolitan and the Water Authority, the initial cost to transport the conserved water was $253 per acre-foot. Thereafter, the price would be equal to the charge or charges set by Metropolitan's Board of Directors pursuant to applicable laws and regulation, and generally applicable to the conveyance of water by Metropolitan on behalf of its member agencies. The transportation charge in 2005 is $258 per acre-foot.

The Water Authority is providing $10 million to help offset potential socioeconomic impacts associated with temporary land fallowing. IID will credit the Water Authority for these funds during years 16 through 45. At the end of the fifth year of the transfer agreement (2007), the Water Authority will prepay IID an additional $10 million for future deliveries of water. IID will credit the Water Authority for this up-front payment during years 16 through 30.

As part of implementation of the QSA and water transfer, the Water Authority also entered into an environmental cost sharing agreement. The agreement specifies that the Water Authority will contribute $64 million for the purpose of funding environmental mitigation costs and contributing to the Salton Sea Restoration Fund.

*Written Contracts or Other Proof*

The supply and costs associated with the transfer are based primarily on the following documents:

Agreement for Transfer of Conserved Water by and between IID and the Water Authority (April 29, 1998). This Agreement provides for a market-based transaction in which the Water Authority would pay IID a unit price for agricultural water conserved by IID and transferred to the Water Authority.

Revised Fourth Amendment to Agreement between IID and the Water Authority for Transfer of Conserved Water (October 10, 2003). Consistent with the executed Quantification Settlement Agreement (QSA) and related agreements, the amendments restructure the agreement and

modify it to minimize the environmental impacts of the transfer of conserved water to the Water Authority.

Amended and Restated Agreement between Metropolitan and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the transfer water to the Water Authority.

Environmental Cost Sharing, Funding, and Habitat Conservation Plan Development Agreement among IID, Coachella Valley Water District (CVWD), and Water Authority (October 10, 2003). This Agreement provides for the specified allocation of QSA-related environmental review, mitigation, and litigation costs for the term of the QSA, and for development of a Habitat Conservation Plan.

Quantification Settlement Agreement Joint Powers Authority Creation and Funding Agreement (October 10, 2003). The purpose of this agreement is to create and fund the QSA Joint Powers Authority and to establish the limits of the funding obligation of CVWD, IID, and Water Authority for environmental mitigation and Salton Sea restoration pursuant to SB 654 (Machado).

*Federal, State, and Local Permits/Approvals*

Federal Endangered Species Act Permit. The U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion on January 12, 2001, that provides incidental take authorization and certain measures required to offset species impacts on the Colorado River regarding such actions.

State Water Resources Control Board (SWRCB) Petition. SWRCB adopted Water Rights Order 2002-0016 concerning IID and Water Authority's amended joint petition for approval of a long-term transfer of conserved water from IID to the Water Authority and to change the point of diversion, place of use, and purpose of use under Permit 7643.

Environmental Impact Report (EIR) for Conservation and Transfer Agreement. As lead agency, IID certified the Final EIR for the Conservation and Transfer Agreement on June 28, 2002.

U. S. Fish and Wildlife Service Draft Biological Opinion and Incidental Take Statement on the Bureau of Reclamation's Voluntary Fish and Wildlife Conservation Measures and Associated Conservation Agreements with the California Water Agencies (12/18/02). The U. S. Fish and Wildlife Service issued the biological opinion/incidental take statement for water transfer activities involving the Bureau of Reclamation and associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

Addendum to EIR for Conservation and Transfer Agreement. IID as lead agency and Water Authority as responsible agency approved addendum to EIR in October 2003.

Environmental Impact Statement (EIS) for Conservation and Transfer Agreement. Bureau of Reclamation issued a Record of Decision on the EIS in October 2003.

CA Department of Fish and Game California Endangered Species Act Incidental Take Permit #2081-2003-024-006). The California Department of Fish and Game issued this permit (10/22/04) for potential take effects on state-listed/fully protected species associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

California Endangered Species Act (CESA) Permit. A CESA permit was issued by California Department of Fish and Game (CDFG) on April 4, 2005, providing incidental take authorization for potential species impacts on the Colorado River.

#### 6.2.1.2 All-American Canal and Coachella Canal Lining Projects

As part of the QSA and related contracts, the Water Authority was assigned Metropolitan's rights to 77,700 ac-ft/yr of conserved water from projects that will line the All-American Canal (AAC) and Coachella Canal (CC). The projects will reduce the loss of water that currently occurs through seepage, and the conserved water will be delivered to the Water Authority. This conserved water will provide the San Diego region with an additional 8.5 million acre-feet over the 110-year life of the agreement.

*Implementation Status*

Earthwork for the Coachella Canal lining project began in November 2004 and involved approximately 37 miles of canal. National Environmental Policy Act (NEPA) and CEQA documentation is complete, including an amended Record of Decision by the U.S. Bureau of Reclamation (USBR). The amendment was required after revising the project design: instead of lining the canal in place, the project entailed the construction of a parallel canal. The project was completed in 2006, and deliveries of conserved water started in 2007.

Preliminary design-related activities have begun on the AAC lining project, including ground and aerial surveying, mapping cultural resources, and geotechnical investigations. The lining project consists of constructing a concrete-lined canal parallel to 24 miles of the existing AAC from Pilot Knob to Drop 3. NEPA and CEQA documentation is complete, environmental mitigation measures have been identified, and Endangered Species Act consultations are pending. Construction of the project has begun and construction is expected to be complete in 2010.

In July 2005, a lawsuit (*CDEM v United States*, Case No. CV-S-05-0870-KJD-PAL) was filed in the U. S. District Court for the District of Nevada on behalf of U.S. and Mexican groups challenging the lining of the AAC. The lawsuit, which names the Secretary of the Interior as a defendant, claims that seepage water from the canal belongs to water users in Mexico. California water agencies note that the seepage water is actually part of California's Colorado

River allocation and not part of Mexico's allocation. The plaintiffs also allege a failure by the United States to comply with environmental laws. Federal officials have stated that they intend to vigorously defend the case.

*Expected Supply*

The AAC lining project will yield 67,700 acre-feet per year of Colorado River water for allocation upon completion of construction. The CC lining project will yield 26,000 acre-feet of Colorado River water each year available for allocation upon completion of construction. The October 10, 2003, Allocation Agreement states that 16,000 acre-feet per year of conserved canal lining water will be allocated to the San Luis Rey Indian Water Rights Settlement Parties. The remaining amount, 77,700 acre-feet per year, will be available to the Water Authority. According to the Allocation Agreement, IID has call rights to a portion (5,000 acre-feet per year) of the conserved water upon termination of the QSA for the remainder of the 110 years of the Allocation Agreement and upon satisfying certain conditions. The term of the QSA is for up to 75 years.

*Transportation*

The October 10, 2003, Exchange Agreement between the Water Authority and Metropolitan also provides for the delivery of the conserved water from the canal lining projects. The Water Authority will pay Metropolitan's applicable wheeling rate for each acre-foot of exchange water delivered. In the Agreement, Metropolitan will deliver the canal lining water for the term of the Allocation Agreement (110 years).

*Cost/Financing*

Under California Water Code Section 12560 et seq., the Water Authority will receive $200 million in state funds for construction of the projects. In addition, under California Water Code Section 79567, $20 million from Proposition 50 is also available for the lining projects. Additionally, the Water Authority will receive $35 million for groundwater conjunctive use projects as part of the agreement. The Water Authority would be responsible for additional expenses above the funds provided by the state.

The rate to be paid to transport the canal lining water will be equal to the charge or charges set by Metropolitan's Board of Directors pursuant to applicable law and regulation and generally applicable to the conveyance of water by Metropolitan on behalf of its member agencies.

In accordance with the Allocation Agreement, the Water Authority will also be responsible for a portion of the net additional Operation, Maintenance, and Repair (OM&R) costs for the lined canals. Any costs associated with the lining projects as proposed, are to be financed through the Water Authority's rates and charges.

*Written Contracts or Other Proof*

The expected supply and costs associated with the lining projects are based primarily on the following documents:

U.S. Public Law 100-675 (1988). Authorized the Department of the Interior to reduce seepage from the existing earthen AAC and CC. The law provides that conserved water will be made available to specified California contracting water agencies according to established priorities.

California Department of Water Resources - Metropolitan Funding Agreement (2001). Reimburse Metropolitan for project work necessary to construct the lining of the CC in an amount not to exceed $74 million. Modified by First Amendment (2004) to replace Metropolitan with the Authority. Modified by Second Amendment (2004) to increase funding amount to $83.65 million, with addition of funds from Proposition 50.

California Department of Water Resources - IID Funding Agreement (2001). Reimburse IID for project work necessary to construct a lined AAC in an amount not to exceed $126 million.

Metropolitan - CVWD Assignment and Delegation of Design Obligations Agreement (2002). Assigns design of the CC lining project to CVWD.

Metropolitan - CVWD Financial Arrangements Agreement for Design Obligations (2002). Obligates Metropolitan to advance funds to CVWD to cover costs for CC lining project design and CVWD to invoice Metropolitan to permit the Department of Water Resources to be billed for work completed.

Allocation Agreement among the United States of America, The Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District (October 10, 2003). This agreement includes assignment of Metropolitan's rights and interest in delivery of 77,700 acre-feet of Colorado River water previously intended to be delivered to Metropolitan to the Water Authority. Allocates water from the AAC and CC lining projects for at least 110 years to the Water Authority, the San Luis Rey Indian Water Rights Settlement Parties, and IID, if it exercises its call rights.

Amended and Restated Agreement between Metropolitan and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the conserved canal lining water to the Water Authority.

Agreement between Metropolitan and Water Authority regarding Assignment of Agreements related to the AAC and CC Lining Projects. This agreement was executed in April 2004 and assigns Metropolitan's rights to the Water Authority for agreements that had been executed to facilitate funding and construction of the AAC and CC lining projects:

Assignment and Delegation of Construction Obligations for the Coachella Canal Lining Project under the Department of Water Resources Funding Agreement No. 4600001474 from the San Diego County Water Authority to the Coachella Valley Water District, dated September 8, 2004.

Agreement Regarding the Financial Arrangements between the San Diego County Water Authority and Coachella Valley Water District for the Construction Obligations for the Coachella Canal Lining Project, dated September 8, 2004.

Agreement No. 04-XX-30-W0429 Among the United States Bureau of Reclamation, the Coachella Valley Water District, and the San Diego County Water Authority for the Construction of the Coachella Canal Lining Project Pursuant to Title II of Public Law 100-675, dated October 19, 2004.

California Water Code Section 12560 et seq. This Water Code Section provides for $200 million to be appropriated to the Department of Water Resources to help fund the canal lining projects in furtherance of implementing California's Colorado River Water Use Plan.

California Water Code Section 79567. This Water Code Section identifies $20 million as available for appropriation by the California Legislature from the Water Security, Clean Drinking Water, Coastal, and Beach Protection Fund of 2002 (Proposition 50) to DWR for grants for canal lining and related projects necessary to reduce Colorado River water use. According to the Allocation Agreement, it is the intention of the agencies that those funds will be available for use by the Water Authority, IID, or CVWD for the AAC and CC lining projects.

California Public Resources Code Section 75050(b)(1). This section identifies up to $36 million as available for water conservation projects that implement the Allocation Agreement as defined in the Quantification Settlement Agreement.

*Federal, State, and Local Permits/Approvals*

AAC Lining Project Final EIS/EIR (March 1994). A final EIR/EIS analyzing the potential impacts of lining the AAC was completed by the Bureau of Reclamation (Reclamation) in March 1994. A Record of Decision was signed by Reclamation in July 1994, implementing the preferred alternative for lining the AAC. A re-examination and analysis of these environmental compliance documents by Reclamation in November 1999 determined that these documents continued to meet the requirements of the NEPA and the CEQA and would be valid in the future.

CC Lining Project Final EIS/EIR (April 2001). The final EIR/EIS for the CC lining project was completed in 2001. Reclamation signed the Record of Decision in April 2002. An amended Record of Decision has also been signed to take into account revisions to the project description.

Mitigation, Monitoring, and Reporting Program for Coachella Canal Lining Project, SCH #1990020408; prepared by Coachella Valley Water District, May 16, 2001.

Environmental Commitment Plan for the Coachella Canal Lining Project, approved by the US Bureau of Reclamation (Boulder City, NV) on March 4, 2003.

Environmental Commitment Plan and Addendum to the All-American Canal Lining Project EIS/EIR California State Clearinghouse Number SCH 90010472 (June 2004, prepared by IID).

Addendum to Final EIS/EIR and Amendment to Environmental Commitment Plan for the All-American Canal Lining Project (approved June 27, 2006, by IID Board of Directors).

### 6.2.2 Water Authority Capital Improvement Program and Financial Information

The Water Authority's capital improvement program (CIP) budget document includes a description of each of the projects and programs being implemented to ensure existing and future facilities are adequate to deliver water supplies throughout the region. The project costs, along with information on the activities that need to be completed, are included in the CIP document. The Water Authority's Master Plan identifies future facilities and other improvements to the Water Authority's system that are necessary to maintain reliability throughout the region. A programmatic environmental impact report was certified by the Water Authority Board of Directors for the Master Plan in November 2003. Projects identified in the Master Plan will be included in the CIP based on Water Authority Board of Directors' approval. Information on the Water Authority's most recent CIP can be found on the World Wide Web at www.sdcwa.org/infra/cip.phtml.

One of the highest priority projects identified in the Master Plan is the development of additional treatment capacity within the region. During recent summers, the Water Authority experienced peak-demand conditions that have exceeded the region's rated treatment capacity. The Master Plan recommended development of an additional 50 mgd of treatment capacity immediately and another 50 mgd capacity by 2010. In response to this recommendation, the Water Authority Board of Directors in September 2005, approved construction of a 100 mgd water treatment plant. The water treatment plant was completed and placed into operation in 2008. For the near-term, the Water Authority and its member agencies implemented short-term conservation programs and operational procedures to ensure adequate supplies during peak summer periods.

The Master Plan also identified carryover storage as a way to improve water supply reliability for the region. The Water Authority identified the three main benefits of carryover storage as: 1) enhance water supply reliability by providing a reliable and readily available source of water during periods of potential shortage, such as during dry years; 2) increase system efficiency by providing operational flexibility to serve above normal demands, such as those occurring in dry years, from storage rather than by the over-sizing of the Water Authority's imported water transmission facilities; and 3) better management of water supplies to allow the Water Authority to accept additional imported deliveries during periods of availability,

such as during wet years, to ensure water availability during dry years. The Water Authority is currently preparing an EIR/EIS for a carryover storage project, with the preferred alternative being an expansion of the San Vicente Reservoir.

The Water Authority Board of Directors is provided a semi-annual and annual report on the status of development of the CIP projects. As described in the Water Authority's biennial budget, a combination of long- and short-term debt and cash (pay-as-you-go) will provide funding for capital improvements. Additional information is included in the Water Authority's biennial budget, which also contains selected financial information and summarizes the Water Authority's investment policy.

## 6.3 Otay Water District

The Otay WD 2002 Water Resources Master Plan and revised 2005 Urban Water Management Plan contain comparisons of projected supply and demands through the year 2030. Projected potable water resources to meet planned demands are currently planned to be supplied entirely with imported water received from the Water Authority. Recycled water resources to meet projected demands are planned to be supplied from local wastewater treatment plants. The Otay WD currently has no local supply of raw water, potable water, or groundwater resources. The development of potential groundwater supplies is a possibility for consideration in the future to allow for less reliance upon imported water. The supply forecasts contained within this WSA Report do not consider local groundwater development by the Otay WD as a supply resource.

### 6.3.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The availability of sufficient potable water supplies and plans for acquiring additional potable water supplies to serve existing and future demands of the Otay WD is based on the preceding discussions regarding Metropolitan's and the Water Authority's water supply resources. Historic imported water deliveries from the Water Authority to Otay WD and recycled water deliveries from the Otay WD Ralph W. Chapman Water Recycling Facility (RWCWRF) are shown in Table 7. Since the year 2000 through mid May 2007, recycled water demand has exceeded the supply capability typically in the summer months. The RWCWRF is limited to a maximum production of about 1,300 ac-ft/yr. This recycled water supply shortfall has been met by supplementing with potable water into the recycled water storage system as needed by adding potable water supplied by the Water Authority. On May 18, 2007 an additional source of recycled water supply from the City of San Diego's South Bay Water Reclamation Plant (SBWRP) became available. The supply of recycled water from the SBWRP is a result of essentially completing construction and commencement of operations of the transmission, storage, and pump station systems necessary to link the SBWRP recycled water supply source to the existing Otay WD recycled water system.

**Table 7**
**Historic Imported and Local Water Supplies**
**Otay Water District**

| Calendar Year | Imported Water (acre-feet) | Recycled Water (acre-feet) | Total (acre-feet) |
|---|---|---|---|
| 1980 | 12,558 | 0 | 12,558 |
| 1985 | 14,529 | 0 | 14,529 |
| 1990 | 23,200 | 0 | 23,200 |
| 1995 | 20,922 | 614 | 21,536 |
| 2000 | 30,936 | 948 | 31,884 |
| 2005 | 40,322 | 1,227 | 41,549 |

Source: Otay WD operational records.

#### 6.3.1.1 Imported and Regional Supplies

The availability of sufficient imported and regional potable water supplies to serve existing and planned uses within Otay WD is demonstrated in the above discussion on Metropolitan and the Water Authority's water supply reliability. The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." The Water Authority provides between 75 to 95 percent of the total supplies used by its 24 member agencies, depending on local weather and supply conditions. In calendar year 2006 the Otay WD received delivery of about 41,700 ac-ft of supply from the Water Authority, which includes the potable water supplement for the recycled water system supply needs. The demand for potable water within the Otay WD is expected to increase to about 72,900 ac-ft by 2025 as per the Otay WD revised 2005 UWMP. These figures take into account the amount of local supply (i.e. conservation and recycling) that is expected to meet demands within Otay WD service area.

*Potable Water System Facilities*

The Otay WD continues to pursue diversification of its water supply resources to increase reliability and flexibility. The Otay WD also continues to plan, design, and construct potable water system facilities to obtain these supplies and to distribute potable water to meet customer demands. The Otay WD has successfully negotiated two water supply diversification agreements that enhance reliability and flexibility, which are briefly described as follows.

- The Otay WD entered into an agreement with the City of San Diego, known as the Otay Water Treatment Plant (WTP) Agreement. The Otay WTP Agreement provides for raw water purchase from the Water Authority and treatment by the City of San Diego at their Otay WTP for delivery to Otay WD. The supply system link to implement the Otay WTP Agreement to access the regions raw water supply system and the local water

treatment plant became fully operational in August 2005. This supply link consists of the typical storage, transmission, pumping, flow measurement, and appurtenances to receive and transport the treated water to the Otay WD system. The City of San Diego obligation to supply 10 mgd of treated water under the Otay WTP Agreement is contingent upon there being available 10 mgd of surplus treated water in the Otay WTP until such time as Otay WD pays the City of San Diego to expand the Otay WTP to meet the Otay WD future needs. In the event that the City of San Diego's surplus is projected to be less than 10 mgd the City of San Diego will consider and not unreasonably refuse the expansion of the Otay WTP to meet the Otay WD future needs. The Otay WTP existing rated capacity is 40 mgd with an actual effective capacity of approximately 34 mgd. The City of San Diego's typical demand for treated water from the Otay WTP is approximately 20 mgd. It is at the City of San Diego's discretion to utilize either imported raw water delivered by the Water Authority Pipeline No. 3 or local water stored in Lower Otay Reservoir for treatment to supply the Otay WD demand.

- The Otay WD entered into an agreement with the Water Authority, known as the East County Regional Treated Water Improvement Program (ECRTWIP Agreement). The ECRTWIP Agreement provides for transmission of raw water to the Helix WD R. M. Levy WTP for treatment and delivery to Otay WD. The supply system link to implement the ECRTWIP Agreement is currently under development to access the regions raw water supply system and the local water treatment plant. This supply link consists of the typical transmission, pumping, storage, flow control, and appurtenances to receive and transport the potable water from the R. M. Levy WTP to Otay WD. The necessary supply link facilities are in various stages of development from design to facilities that are currently under construction. The required supply link facilities are scheduled to be fully operational by March 2010. The planned operational testing and startup of the supply link is planned to occur in December 2009. The Otay WD is required to take a minimum of 10,000 ac-ft/yr of treated water from the R.M. Levy WTP supplied from the regions raw water system.

*Cost and Financing*

The capital improvement costs associated with water supply and delivery are financed through the Otay WD water meter capacity fee and user rate structures. The Otay WD potable water sales revenue are used to pay for the wholesale cost of the treated water supply and the operating and maintenance expenses of the potable water system facilities.

*Written Agreements, Contracts, or Other Proof*

The supply and cost associated with deliveries of treated water from the Otay WTP and the R.M. Levy WTP is based on the following documents.

Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the City of San Diego and the Otay Water District. The Otay WD entered into an agreement dated

January 11, 1999 with the City of San Diego that provides for 10 mgd of surplus treated water to the Otay WD from the existing Otay WTP capacity. The agreement allows for the purchase of treated water on an as available basis from the Otay WTP. The Otay WD pays the Water Authority at the prevailing raw water rate for raw water and pays the City of San Diego at a rate equal to the actual cost of treatment to potable water standards.

Agreement between the San Diego County Authority and Otay Water District Regarding Implementation of the East County Regional Treated Water Improvement Program. The ECRTWIP Agreement requires the purchase of at least 10,000 ac-ft per year of potable water from the Helix WD R.M. Levy WTP at the prevailing Water Authority treated water rate. The ECRTWIP Agreement is dated April 27, 2006.

Agreement between the San Diego County Water Authority and Otay Water District for Design, Construction, Operation, and Maintenance of the Otay 14 Flow Control Facility Modification. The Otay WD entered into the Otay 14 Flow Control Facility Modification Agreement dated January 24, 2007 with the Water Authority to increase the Otay 14 Flow Control Facility physical capacity. The Water Authority and Otay WD to 50% share the capital cost to expand its capacity from 8 mgd to 16 mgd.

*Federal, State, and Local Permits/Approvals*

The Otay WD has acquired all the permits for the construction of the pipeline and pump station associated with the Otay WTP supply source and for the 640-1 and 640-2 water storage reservoirs project associated with the ECRTWIP Agreement through the typical planning, environmental approval, design, and construction processes.

Design-related activities have begun on the transmission main and Otay 14 Flow Control Facility associated with the ECRTWIP Agreement, including ground and aerial surveying, mapping cultural resources, and other environmental documentation investigations. The transmission main project consists of constructing about 26,000 feet of a 36-inch diameter steel pipeline from the Otay 14 Flow Control Facility to the 640-1 and 640-2 Reservoirs project. The Otay 14 Flow Control Facility modification consists of increasing the capacity of the existing systems from 8 mgd to 16 mgd. CEQA documentation is complete for both projects. Construction of both of these projects is expected to be complete prior to January 2010.

The City of San Diego and the Helix Water District are required to meet all applicable federal, state, and local health and water quality requirements for the potable water produced at the Otay WTP and the R.M. Levy WTP respectively.

#### 6.3.1.2 Recycled Water Supplies

Wastewater collection, treatment, and disposal services provided by the Otay WD is limited to a relatively small area within what is known as the Jamacha Basin, located within the Middle

Sweetwater River watershed upstream of the Sweetwater Reservoir and downstream of Loveland Reservoir. Water recycling is defined as the treatment and disinfection of municipal wastewater to provide a water supply suitable for non-potable reuse. The Otay WD owns and operates the Ralph W. Chapman Water Recycling Facility, which produces recycled water treated to a tertiary level for landscape irrigation purposes. The recycled water market area of the Otay WD is located primarily within the eastern area of the City of Chula Vista and on the Otay Mesa. The Otay WD distributes recycled water to a substantial market area that includes but is not limited to the U.S. Olympic Training Center, the EastLake Golf Course, and other development projects.

The Otay WD projects that annual average demands for recycled water will to increase to about 6,294 ac-ft/yr by 2025 and are estimated to approach 10,000 ac-ft/yr at ultimate build out. About 1,300 ac-ft/yr is generated by the RWCWRF, with the remainder planned to be supplied to Otay WD by the City of San Diego's SBWRP.

*Recycled Water System Facilities*

The Otay WD has and continues to construct recycled water storage, pumping, transmission, and distribution facilities to meet projected recycled water market demands. For nearly 20 years, millions of dollars of capital improvements have been constructed. The supply link consisting of a transmission main, storage reservoir, and a pump station to receive and transport the recycled water from the City of San Diego's SBWRP are complete and recycled water deliveries began on May 18, 2007.

*Cost and Financing*

The capital improvement costs associated with the recycled water supply and distribution systems are financed through the Otay WD water meter capacity fee and user rate structures. The Otay WD recycled water sales revenue, along with Metropolitan and the Water Authority's recycled water sales incentive programs are used to help offset the costs for the wholesale purchase and production of the recycled water supply, the operating and maintenance expenses, and the capital costs of the recycled water system facilities.

*Written Agreements, Contracts, or Other Proof*

The supply and cost associated with deliveries of recycled water from the SBWRP is based on the following document.

Agreement between the Otay Water District and the City of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant. The agreement provides for the purchase of at least 6,721 ac-ft per year of recycled water from the SBWRP at an initial price of $350 per acre-foot. The Otay WD Board of Directors approved the final agreement on June 4, 2003 and the San Diego City Council approved the final agreement on October 20, 2003.

*Federal, State, and Local Permits/Approvals*

The Otay WD has in place an agreement with Metropolitan for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. Also, the Otay WD has in place an agreement with the Water Authority for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. The Water Authority sales incentive agreement was approved by Water Authority on July 26, 2007 and by Otay WD on August 1, 2007. All permits for the construction of the recycled water facilities to receive, store, and pump the SBWRP supply have been acquired through the typical planning, environmental approval, design, and construction processes.

The California Regional Water Quality Control Board San Diego Region (RWQCB) "Master Reclamation Permit for Otay Water District Ralph W. Chapman Reclamation Facility" was adopted on May 9, 2007 (Order No. R9-2007-0038). This order establishes master reclamation requirements for the production, distribution, and use of recycled water in the Otay WD service area. The order includes the use of tertiary treated water produced and received from the City of San Diego's SBWRP. Recycled water received from and produced by the SBWRP is regulated by Regional Board Order No. 2000-203 and addenda. The City of San Diego is required to meet all applicable federal, state, and local health and water quality requirements for the recycled water produced at the SBWRP and delivered to Otay WD in conformance with Order No. 2000-203.

#### 6.3.1.3 Potential Groundwater Supplies

The Otay WD revised 2005 UWMP contains a brief description of the development of potential groundwater supplies. Over the past several years, Otay WD has studied numerous potential groundwater supply options that have shown, through groundwater monitoring well activities, poor quality water and/or insufficient yield from the basins. The Otay WD has a few capital improvement program projects to continue the quest to develop potential groundwater resources. These groundwater supply efforts are not currently considered as a viable water supply resource to meet projected demands.

### 6.3.2 Otay WD Capital Improvement Program

The Otay WD plans, designs, constructs, and operates water system facilities to acquire sufficient supplies and to meet projected ultimate demands placed upon the potable and recycled water systems. In addition, the Otay WD forecasts needs and plans for water supply requirements to meet projected demands at ultimate build out. The necessary water facilities are constructed when development activities proceed and require service to achieve adequate cost effective water service.

New water facilities that are required to accommodate the forecasted growth within the entire Otay WD service area are defined and described within the Otay WD 2002 WRMP. These facilities are incorporated into the annual Otay WD Six Year Capital Improvement Program

(CIP) for implementation when required to support development activities. As major development plans are formulated and proceed through the land use jurisdictional agency approval processes, Otay WD prepares water system requirements specifically for the proposed development project consistent with the 2002 WRMP. These requirements document, define, and describe all the potable water and recycled water system facilities to be constructed to provide an acceptable and adequate level of service to the proposed land uses, as well as the financial responsibility of the facilities required for service. The Otay WD funds the facilities identified as CIP projects. Established water meter capacity fees and user rates are collected to fund the CIP project facilities. The developer funds all other required water system facilities to provide water service to their project.

# Section 7 – Conclusion: Availability of Sufficient Supplies

The Business Park project is currently located within the jurisdictions of the Otay WD, the Water Authority, and Metropolitan. To obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and Metropolitan to utilize imported water supply.

The Water Authority and Metropolitan have an established process that ensures supplies are being planned for and documented to meet future growth. Any revisions to land use plans and annexations are captured in updated SANDAG forecasts for land use planning, demographics, and economic projections. The Water Authority and Metropolitan will update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land use developments that are not within the Water Authority nor Metropolitan jurisdictions or that have revised land use plans than reflected in the existing growth forecast. Proposed land areas to be annexed or revised land uses typically result in creating higher demand and supply requirements than originally anticipated. The Water Authority and Metropolitan next demand and supply forecast would then capture the revised demands and resulting supplies which will become a permanent part of and incorporated within the Water Authority and Metropolitan water resources planning documents.

Metropolitan's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2004 update to the IRP (2004 IRP Update) includes a planning buffer supply to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning

buffer, Metropolitan periodically evaluates supply development to ensure that the region is not under or over developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

In Section II.4 of their 2005 Regional Urban Water Management Plan (2005 RUWMP), Metropolitan states that through effective management of its water supply, they fully expect to be 100 percent reliable in meeting all non-discounted non-interruptible demands throughout the next twenty-five years. Metropolitan's 2005 RUWMP identifies potential reserve supplies in the supply capability analysis (Tables II-7, II-8, and II-9), which could be available to meet the unanticipated demands.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written water supply assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 9 of the Water Authority's 2005 Updated UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, completed in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

This WSA Report identifies that the water demand projections for the proposed Business Park project are included in the water demand and supply forecasts within the water resources planning documents of the Otay WD, the Water Authority, and Metropolitan. Water supplies necessary to serve the demands of the proposed Business Park project, along with existing and other projected future users, as well as the actions necessary to develop these supplies, are also identified in the water supply planning documents of the Otay WD, the Water Authority, and Metropolitan. The potable water demand projections and supply requirements for the proposed Business Park project are currently within the water resources planning documents of the Otay WD, Water Authority, and Metropolitan.

This WSA Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply needs for the proposed Business Park project. This WSA Report demonstrates and documents that sufficient water supplies are and will be planned for and are planned to be made available over a 20-year planning horizon for normal and in single dry

and multiple dry years to meet the projected demand of the proposed Business Park project and the existing and other planned development projects within the Otay WD.

Table 8 presents the forecasted balance of water demands and required supplies for the Otay WD service area under average or normal year conditions. Table 9 presents the forecasted balance of water demands and supplies for the Otay WD service area under single dry year conditions. Table 10 presents the forecasted balance of water demands and supplies for the Otay WD service area under multiple dry year conditions for the five year period ending in 2015. Multiple dry year conditions for periods ending 2020, 2025, and 2030 are provided in the Otay WD revised 2005 UWMP. The projected potable demand and supply requirements shown the Tables 8, 9, and 10 are from the Otay WD revised 2005 UWMP and include those of the Business Park project. Hot, dry weather may generate urban water demands that are about 7 percent greater than normal. This percentage was utilized to generate the dry year demands shown in Tables 9 and 10. The recycled water supplies are assumed to experience no reduction in a dry year.

**Table 8**
**Projected Balance of Water Supplies and Demands**
**Normal Year Conditions (acre feet)**

| Description | FY 2010 | FY 2015 | FY 2020 | FY 2025 | FY 2030 |
|---|---|---|---|---|---|
| Water Authority Supply | 45,772 | 52,349 | 59,799 | 66,560 | 75,108 |
| Recycled Water Supply | 4,040 | 4,684 | 5,430 | 6,294 | 7,297 |
| Groundwater Supply | 0 | 0 | 0 | 0 | 0 |
| **Total Required Supply** | **49,812** | **57,033** | **65,229** | **72,854** | **82,405** |
| **Total Projected Demand** | **49,812** | **57,033** | **65,229** | **72,854** | **82,405** |
| **Supply Deficit** | **0** | **0** | **0** | **0** | **0** |

**Table 9**
**Projected Balance of Water Supplies and Demands**
**Single Dry Year Conditions (acre feet)**

| Description | FY 2010 | FY 2015 | FY 2020 | FY 2025 | FY 2030 |
|---|---|---|---|---|---|
| Water Authority Supply | 49,259 | 56,341 | 64,365 | 71,660 | 80,876 |
| Recycled Water Supply | 4,040 | 4,684 | 5,430 | 6,294 | 7,297 |
| Groundwater Supply | 0 | 0 | 0 | 0 | 0 |
| **Total Required Supply** | **53,299** | **61,025** | **69,795** | **77,954** | **88,173** |
| **Total Projected Demand** | **53,299** | **61,025** | **69,795** | **77,954** | **88,173** |
| **Supply Deficit** | **0** | **0** | **0** | **0** | **0** |

Dry year demands assumed to generate a 7% increase in demand over normal conditions for each year in addition to new demand growth.

**Table 10**
**Projected Balance of Water Supplies and Demands**
**Multiple Dry Year Conditions (acre feet)**

| Description | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|---|---|
| Water Authority Supply | 50,675 | 52,091 | 53,509 | 54,925 | 56,341 |
| Recycled Water Supply | 4,169 | 4,298 | 4,426 | 4,555 | 4,684 |
| Groundwater Supply | 0 | 0 | 0 | 0 | 0 |
| **Total Required Supply** | **54,844** | **56,389** | **57,935** | **59,480** | **61,025** |
| **Total Projected Demand** | **54,844** | **56,389** | **57,935** | **59,480** | **61,025** |
| **Supply Deficit** | **0** | **0** | **0** | **0** | **0** |

Dry year demands assumed to generate a 7% increase in demand over normal conditions for each year in addition to new demand growth.

This WSA Report demonstrates that sufficient water supplies are planned for as well as the actions necessary to develop these supplies are documented to meet projected water demands of the Business Park project and the existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal and in single and multiple dry years.

# Source Documents

County of San Diego, July 23, 2008, Otay Business Park SB 610 and SB 221 Compliance request letter received July 24, 2008.

County of San Diego, September 18, 2008, Otay Business Park SB 610 Compliance request letter received September 22, 2008.

County of San Diego, September 23, 2008, Otay Business Park SB 610 Compliance time extension letter received September 25, 2008.

County of San Diego, "East Otay Mesa Specific Plan Area," adopted July 27, 1994.

Otay Water District, "2002 Water Resources Master Plan," August 2002.

MWH Americas, Inc. and Otay Water District, "Otay Water District 2005 Urban Water Management Plan," December 2005 amended July 2007.

San Diego County Water Authority, "Urban Water Management Plan 2005 Update," November 2005 amended May 2007.

Metropolitan Water District of Southern California, "Regional Urban Water Management Plan," November 2005.

Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the City of San Diego and the Otay Water District.

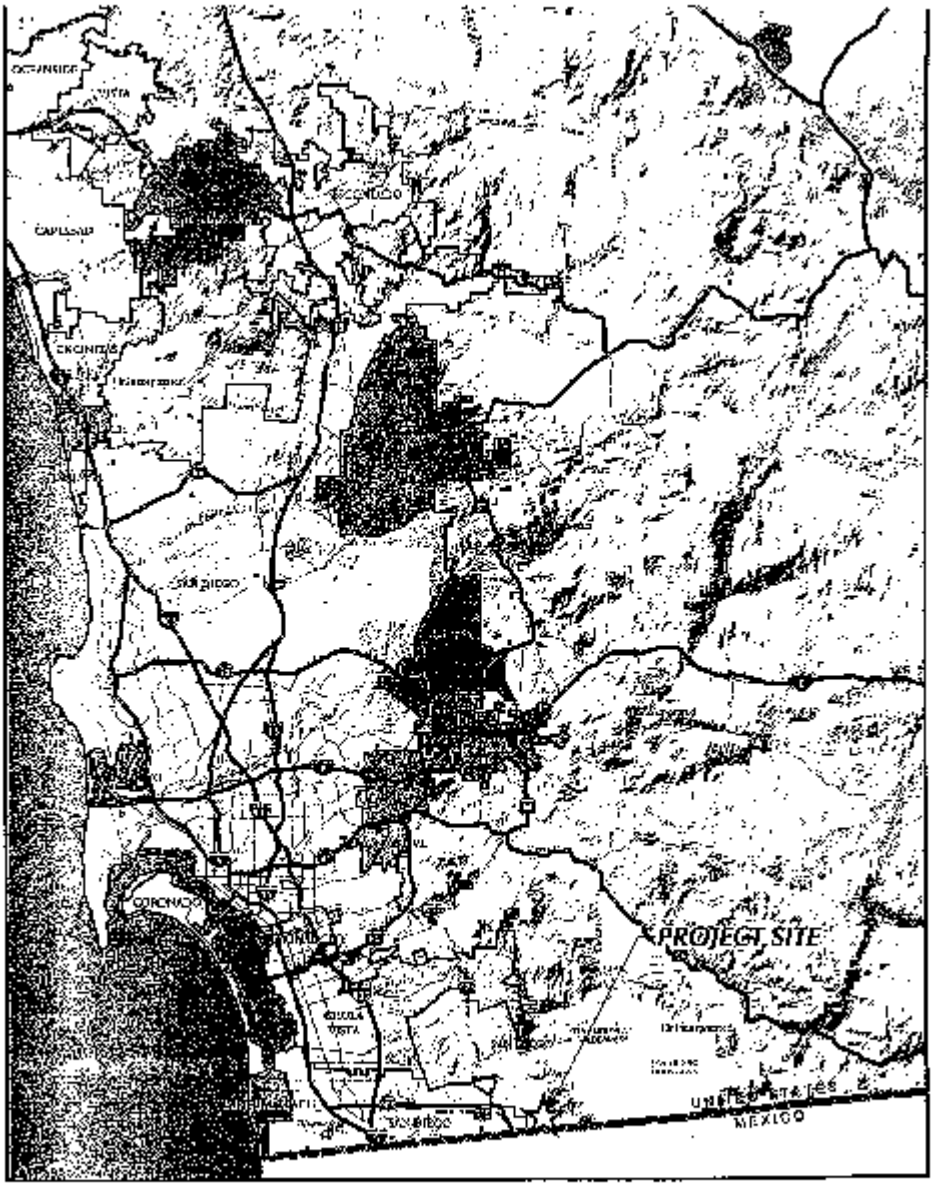
Agreement between the San Diego County Water Authority and Otay Water District regarding Implementation of the East County Regional Treated Water Improvement Program.

Agreement between the San Diego County Water Authority and Otay Water District for Design, Construction, Operation, and Maintenance of the Otay 14 Flow Control Facility Modification.

Agreement between the Otay Water District and the City of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant.

# Appendix A

## Otay Business Park Project Regional Location Map




0 3 6 Miles

Regional Location Map

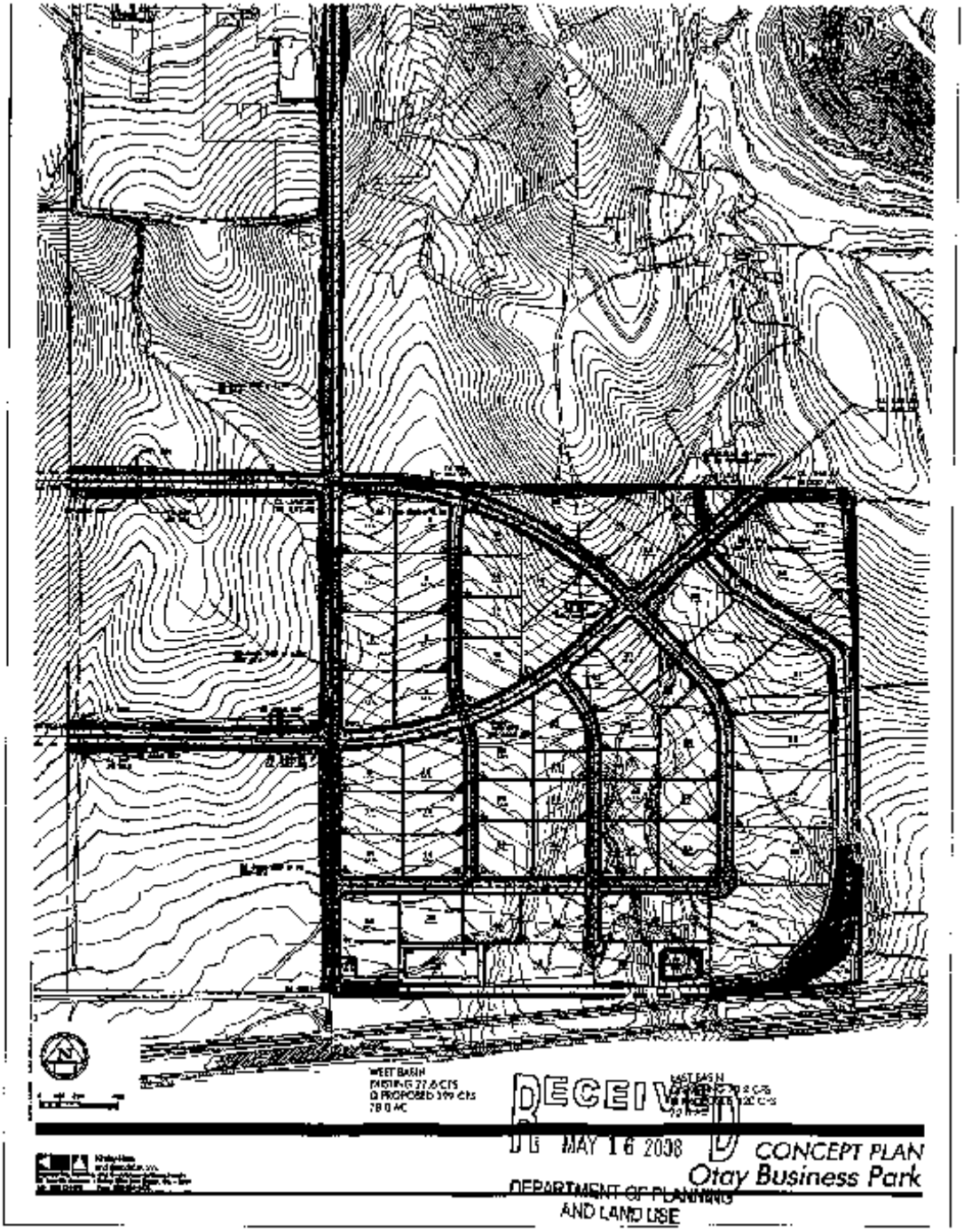
NOTICE OF PREPARATION



DEPARTMENT OF PLANNING
AND LAND USE

# Appendix B

## Otay Business Park Project Concept Plan


WEST BASIN
EXISTING 27.6 CFS
PROPOSED 199 CFS
78.0 AC
RECEIVED
MAY 16 2008
DEPARTMENT OF PLANNING
AND LAND USE
CONCEPT PLAN
Otay Business Park